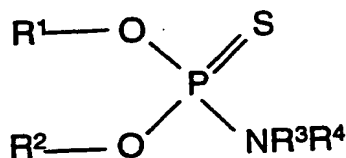


## Patent claims:

1. The use of a composition for the flotation of sulfide ores comprising at least one compound of the formula

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where

- 10  $\text{R}^1$ ,  $\text{R}^2$  and  $\text{R}^3$  independently of one another are alkyl groups having 1 to 18 carbon atoms, alkenyl groups having 2 to 18 carbon atoms, aryl groups having 6 to 10 carbon atoms, or alkylaryl groups having 7 to 10 carbon atoms, and

$\text{R}^4$  is hydrogen or alkyl groups having 1 to 18 carbon atoms, alkenyl groups having 2 to 18 carbon atoms, aryl groups having 6 to 10 carbon atoms, or alkylaryl groups having 7 to 10 carbon atoms.

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2. The use of the flotation composition as claimed in claim 1, wherein  $\text{R}^1$ ,  $\text{R}^2$  and  $\text{R}^3$  independently of one another are C<sub>2</sub>-C<sub>4</sub>-alkyl groups.

- 20 3. The use of the flotation composition as claimed in claim 1 and/or 2 in a pH range from 2 to 12.

4. The use of the flotation composition as claimed in claim 1 and/or 2 in amounts of 0.001 to 1.0 kg per tonne of crude ore.

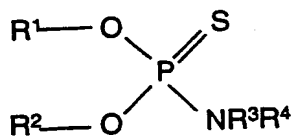
- 25 5. The use of the flotation composition as claimed in claim 1 and/or 2 in the flotation of nonferrous sulfide ores, the sulfide ore being copper sulfide, nickel sulfide, zinc sulfide, lead sulfide or molybdenum sulfide.

6. A process for preparing compounds of the formula

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Amended 34

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where

- 5  $\text{R}^1$ ,  $\text{R}^2$  and  $\text{R}^3$  independently of one another are alkyl groups having 1 to 18 carbon atoms, alkenyl groups having 2 to 18 carbon atoms, aryl groups having 6 to 10 carbon atoms, or alkylaryl groups having 7 to 10 carbon atoms, and
- 10  $\text{R}^4$  is hydrogen or alkyl groups having 1 to 18 carbon atoms, alkenyl groups having 2 to 18 carbon atoms, aryl groups having 6 to 10 carbon atoms, or alkylaryl groups having 7 to 10 carbon atoms, which comprises

- a) reacting a dithiophosphate of the formula  $(\text{R}^1\text{O})(\text{R}^2\text{O})\text{PS}_2\text{Me}$ , where Me is a cation, with an oxidizing agent in acidic solution and then
- 15 b) reacting the resultant product with an amine of the formula  $\text{HNR}^3\text{R}^4$ .

7. The process as claimed in claim 6, wherein  $\text{R}^1$ ,  $\text{R}^2$  and  $\text{R}^3$  independently of one another are C<sub>2</sub>-C<sub>4</sub>-alkyl groups.

20 8. The process as claimed in claim 7, wherein  $\text{R}^1$  and  $\text{R}^2$  are a butyl group,  $\text{R}^3$  is an ethyl group and  $\text{R}^4$  is hydrogen.

9. The process as claimed in claim 8, wherein  $\text{R}^1$  and  $\text{R}^2$  are an isobutyl group.